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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,309	01/26/2001	Kazuo Taguchi	IIDAP6.001C1	7653

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EXAMINER
COMBS, JANELL A

ART UNIT	PAPER NUMBER
1742	7

DATE MAILED: 06/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF7

Office Action Summary	Application No.	Applicant(s)	
	09/771,309	TAGUCHI ET AL.	
	Examiner	Art Unit	
	Janelle Combs-Morillo	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *1 and 6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 2-5 and 7-10 in Paper No. 6 is acknowledged.

Drawings

2. Figure 4A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-5, and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is an improper hybrid claim. A process claim cannot depend on a product claim, wherein said product claim is withdrawn from consideration. The limitations of the product claim must be written out in claim 2.

Method claims 2-5, and 7-10 must have actively recited steps (i.e. extruding instead of extrusion). Appropriate correction is required.

It is unclear if the first homogenizing treatment mentioned in claims 2, 3, 7, and 8 is optional because the minimum holding time is zero hours. Clarification is needed.

The phrase "at least 0.3-1.5 wt% Mn" renders the present claims indefinite because it is unclear if "at least" refers to only 0.3% or the entire range 0.3-1.5%. If "at least" refers to only 0.3%, then the examiner suggests changing said phrase to "at least 0.3 to 1.5 wt% Mn" (or something similar) in order to clarify.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wade (US 5,286,316) in view of JP 61-119645A (JP'645).

Wade teaches a process for producing heat exchanger tubing (abstract) from a 3000 series aluminum alloy comprising 0.1-0.5% Mn, wherein said process comprises the steps of homogenizing at 1100°F (593°C) for 24 hours and then homogenizing at 950°F(510°C) for 24 hours (see footnote on Table IVa), cooling at a cooling rate of <200°F/hr (column 10 lines 33-35, column 12 lines 20-23), and extruding (column 12 line 13). Wade teaches "homogenization practice is intended to precipitate the remaining manganese as a dispersoid" (column 5 lines 4-6). Wade broadly teaches homogenizing at temperatures between 750-1180°F (399-638°C).

Wade does not mention extruding by "port hole" extrusion. However, JP'645 teaches that port hole extrusion can be applied to similar 3000 series alloys, and is used for producing seamed piping connectors for heat exchanger applications (abstracts, Fig. 1-3). It would have been obvious to one of ordinary skill in the art to perform port hole extrusion, as taught by JP'645, after the homogenization cycle of Wade because JP'645 teaches that similar 3000 alloys are suitable for port hole extrusion.

TWM 8 4G d under 35 U.S.C. 103(a) as being unpatentable over Wade (US 5,286,316) and JP 61-119645A (JP'645), in view of "Metals Handbook: Desk Edition" p 428.

As stated above, Wade and JP'645 teach a process of homogenizing and extruding, substantially as presently claimed.

However, neither Wade nor JP'645 teach the presently claimed 3000 series composition. However, "Metals Handbook: Desk Edition" teaches that the presently claimed composition is known (3105, 3003, etc.). It would have been obvious to one of ordinary skill in the art to perform the homogenization and extrusion process as taught by Wade and JP'645 on a variety of 3000 series aluminum alloys, such as (3105, 3003, etc.) as taught by the "Metals Handbook: Desk Edition", because 3000 alloys have high corrosion resistance and strength, and are suitable for heat exchanger parts (Wade abstract, JP'645 abstract).

8. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gullotti et al (US 3,990,922) and JP 61-052346 A (JP'346).

Gullotti teaches a process for producing hollow material from an aluminum alloy comprising up to 0.40% Mn (column 3 lines 4-5), wherein said process comprises the steps of homogenizing at 557-607°C for 2-12 hours, and then homogenizing at 20-100°F below the

solidus (typically 493-538°C) for 2-12 hours (column 2 lines 7-13, column 4 lines 7-8), wherein said process includes slowly cooling to at least 800°F at a rate of < 100°F/hr (column 4 lines 12-14) followed by cooling to room temperature, and heating up to an extrusion temperature and extruding (column 4 lines 39-45). Gullotti teaches that the heat treatment of the present invention drives elements such as manganese out of solution (Mn precipitates, column 3 lines 62-65).

Gullotti does not mention extruding by "port hole" extrusion. However, JP'346 teaches that port hole extrusion can be applied to similar 6000 series alloys, and is used for producing tubes (abstracts, Fig. 1-3). It would have been obvious to one of ordinary skill in the art to perform port hole extrusion, as taught by JP'346, after the homogenization cycle of Gullotti because JP'346 teaches that similar 6000 alloys are suitable for port hole extrusion.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-052346A (JP'346).

overcome

JP'346 teaches a process of producing an aluminum alloy hollow material with 0.05-0.5% Mn, wherein said process comprises the steps of homogenizing at 480-580°C for 1-24 hrs and port hole extruding (abstract). Because it is unclear if homogenizing at 500-630°C for 0-24 hr is an optional step (see 112 second paragraph rejection above), JP'346 is held to teach homogenizing and port hole extruding substantially as presently claimed. It is held that JP'346 has created a prima facie case of obviousness of the presently claimed invention.

Allowable Subject Matter

10. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claim 10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

12. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach a process for making an aluminum alloy hollow material (with the presently claimed composition) by a 2 step homogenization followed by cooling, substantially as presently claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached on 7:30 am- 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

jcm
May 23, 2002